

A Novel Catalyst Deposition Technique for the growth of Carbon Nanotubes

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Project Goals

- Technique which is scaleable to industry
- Ability to control SWNT and MWNT formation
- Ability to control the density of NTs grown
- Ability to apply standard masking techniques for NT patterning

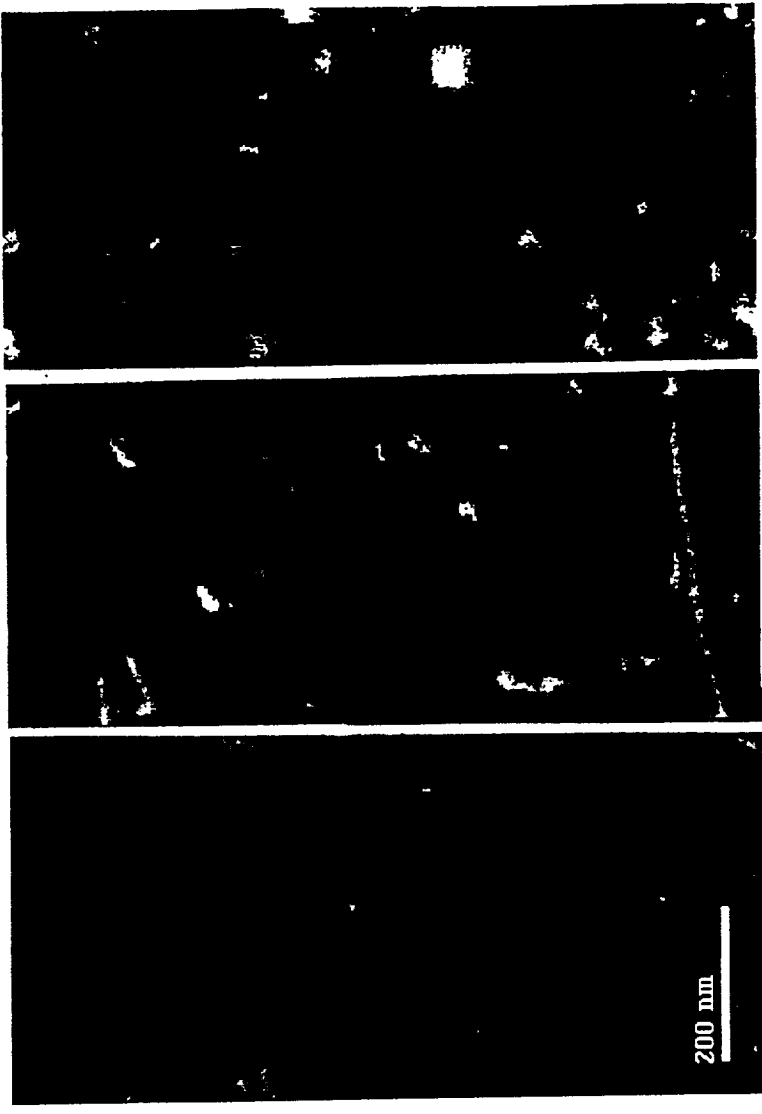
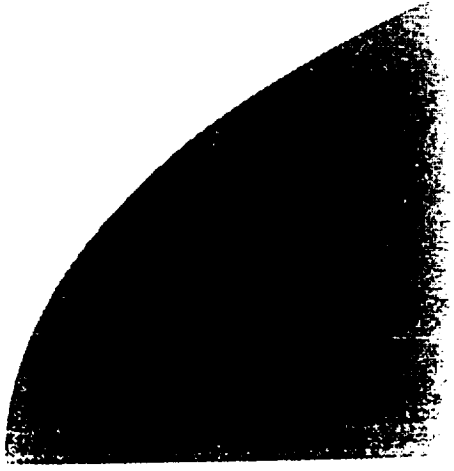


Illustration of Deposition Process



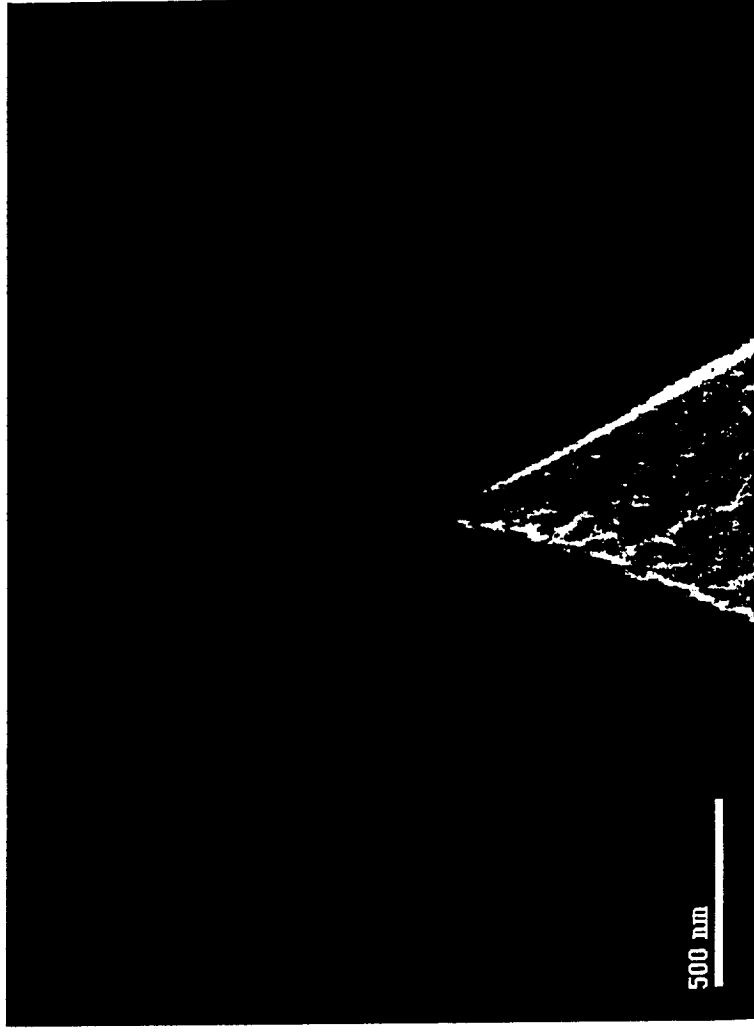
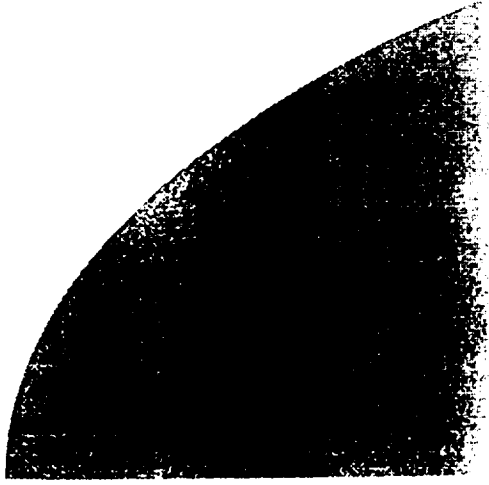
Examples of SWNT Deposits

- SWNT of varying thickness can be grown by changing the catalyst composition



Examples of SWNT Deposits, cont. I

- Ultra thin growths of SWNT can be used for SPM tips



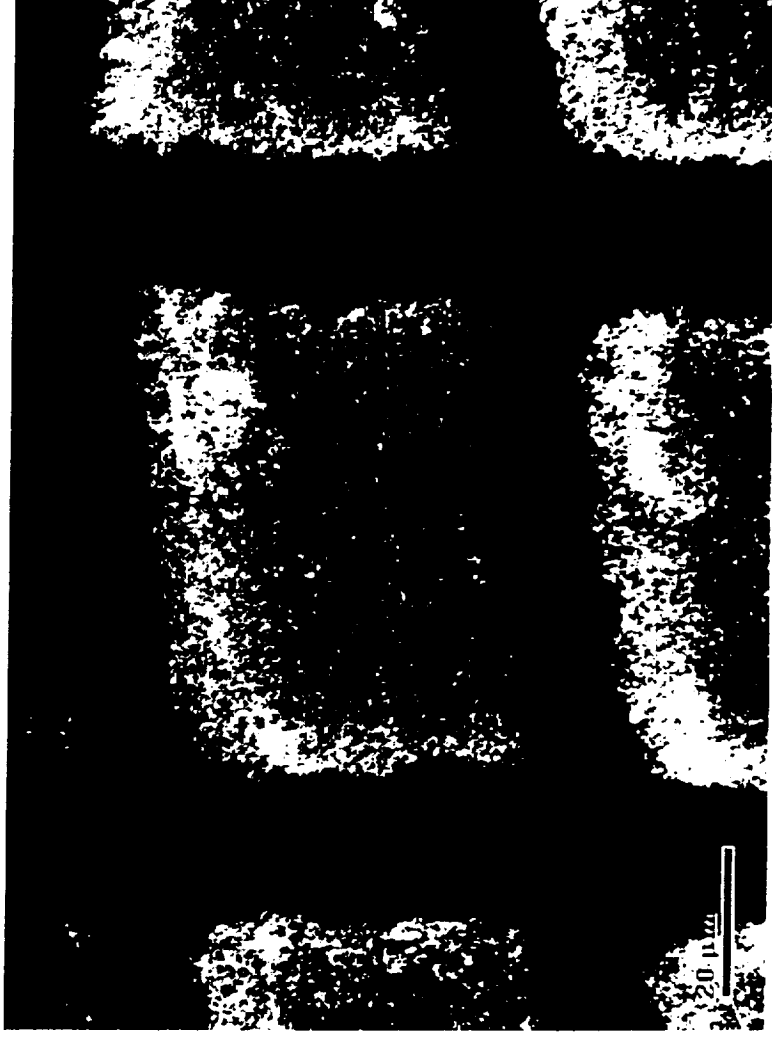
Examples of SWNT Deposits, cont. III

- Thicker deposits can be applied to detectors or arrays



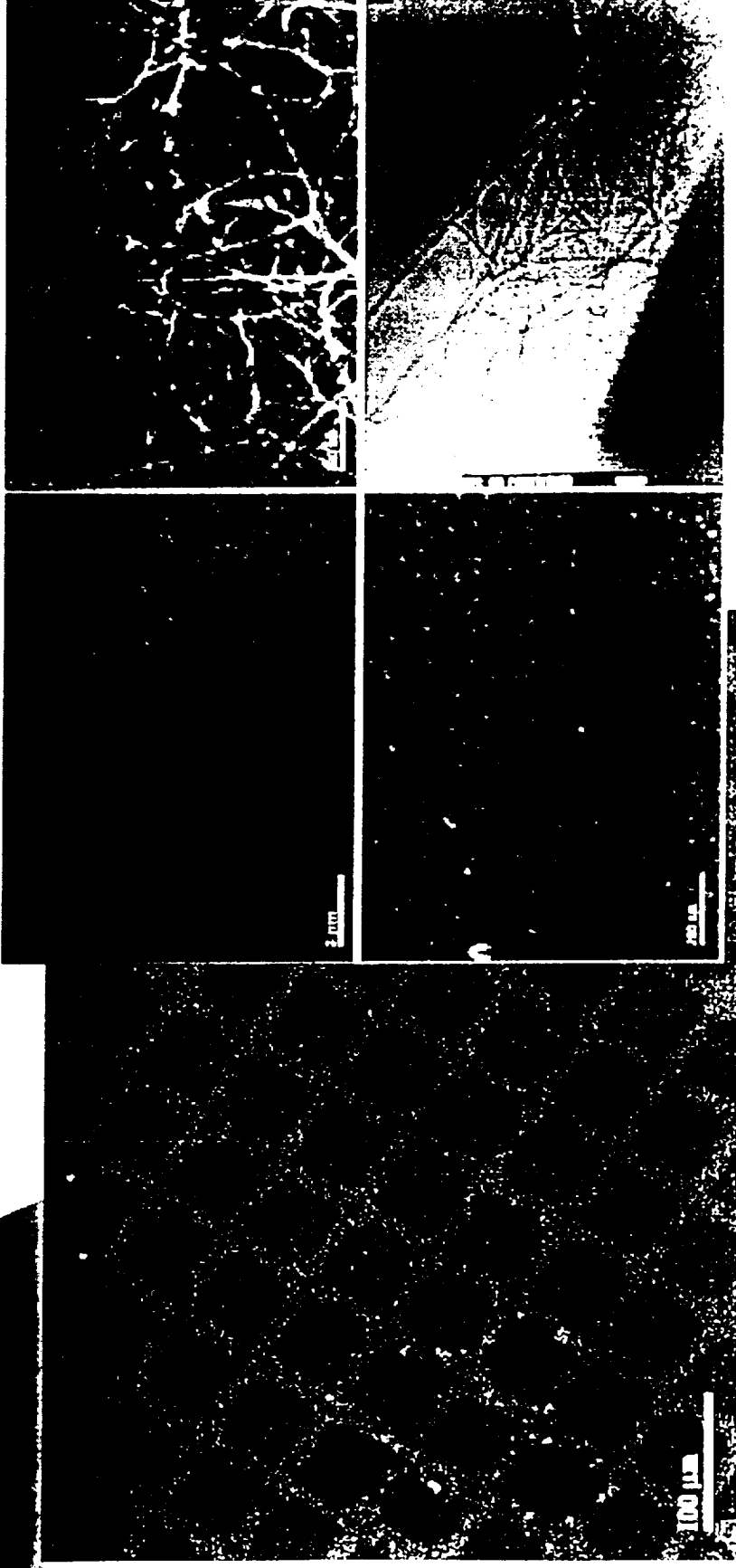
Demonstration of Masking MWNs, cont.

- Surface masked by a 400 mesh TEM grid and grown for 1 minute



Demonstration of Masking SWNTs

- Surface masked by a 400 mesh TEM grid

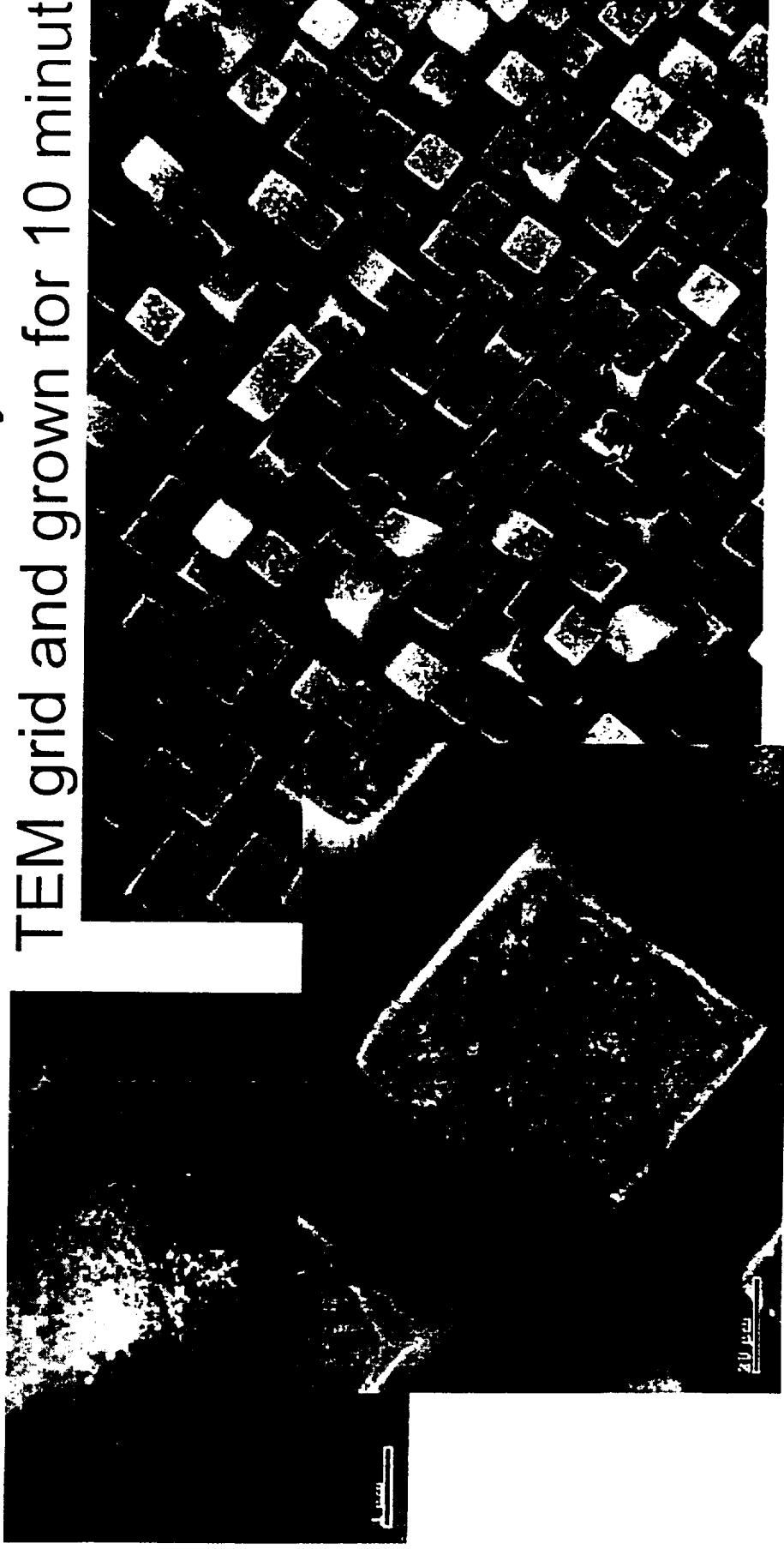


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Demonstration of Masking MWNTs

- Surface masked by a 400 mesh TEM grid and grown for 10 minutes



Resistance of NT Towers: STM IV Curves

- 1.3 Kohms resistance when tip is pressed into the surface

2mV IV Curve

